

### **REMARKS**

Reconsideration and allowance are respectfully requested. Claims 1, 8, 9, 14, 21 and 22 have been amended. Claims 23-25 have been added. Claims 1-25 are pending.

Claims 1, 2, 7, 8, 13, 14, 15, 20 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai in view of Henderson. The independent claims 1, 8, 14, and 21 have been amended to define the invention more clearly and thus obviate the rejection. In particular, the independent claims recite that the digitizer is constructed and arranged to have no display features. As discussed at page 7 paragraph [0025] of the specification and as shown in FIG. 1, information 25 input on digitizer 18 coincides with the display 14 so as to be shown in the corresponding location on the display 14 and on the projected image on the whiteboard 21. Handwritten information 25 does not appear on the digitizer 18; the stroke is however captured electronically and is represented graphically on the display 14 and whiteboard 21 (if provided) together with the image 17. In addition, the independent claims have been amended to recite that the mapping is performed via computer readable medium, at the host computer, having stored thereon sequences of instructions for mapping the space to the display.

Kawai teaches a display and drawing unit 543 that comprises a digitizer 101 and a liquid crystal display unit 201. See column 7, lines 62-67 of Kawai. Kawai discloses an optical communications system and thus requires a display at each terminal 507-510. The Examiner contends that in Kawai, the TV conference system central device 506 is the claimed host computer. Device 506 is not a computer, but merely sends, in an optical manner, video and/or sound to the terminals. Furthermore, the claims require the host computer to be constructed and arranged to execute an application to provide an image on the display. The device 506 does not execute an application to provide an image on the projector 521. As discussed at column 4, lines 3-21, the device 506 of Kawai merely receives image sound or data signals from the input 522.

In Kawai the Device or Terminal (Item 507, Optical Signal Transmitting/Receiving Unit) has a display with integrated digitizer. As such, in Claim 1, Line 16, Kawai

requires an “input means for inputting a data signal related to the image displayed on the display unit and for causing said display means to update an image displayed on the display unit in accordance with the data signal.” Hence, the user working with the Kawai Device has a direct visual correlation of the displayed image and the digitizer. In the claimed system, there is no correlation at the digitizer; the mapping of the digitizer space to the displayed image is done at the general purpose Host Computer where the displayed image is generated. The Kawai, implementation is purely a real-time hardware implementation, no computer readable medium is used for mapping the displayed image, or for capturing the annotation (or digitizer input).

In Kawai, Claim 1 (Col 13 Lines 14-20) states

a device...

display means, having a display unit, for displaying an image based on the video data received by said receiving means;

input means for inputting a data signal related to the image displayed on the display unit and for causing said display means to update an image displayed on the display unit in accordance with the data signal...

Thus, the display in the device is a key element of Kawai. A direct correlation of the displayed image and the data input signal exists at the Kawai Device (Kawai Fig 1 Item 507), whereas in the claimed Collaborative Input System, no such correlation exists at the device and it is the computer readable medium at the host computer that is responsible for this mapping of various sized images to the display.

In addition, the independent claims as amended define that the digitizer is un-tethered as disclosed at paragraph [0021] of the specification. Thus, due to being un-tethered and by using the wireless communication, the digitizer is portable. Typically, conventional electromagnetic digitizers are powered via a separate power supply or by using power supplied via the communications cable. In Kawai, since the device requires line of site communication, it is not un-tethered (portable) and cannot be moved from it's fixed position.

With regard to claims 7, 13 and 20, the Examiner notes that Kawai does not teach a digitizer having an opaque writing surface but states that Henderson teaches a digitizer with an opaque writing surface. Applicants submit that it would not have been obvious to use the digitizer of Henderson with an opaque writing surface in the system of Kawai, since such a substitution would destroy the invention of Kawai, which requires that an image be displayed at each terminal. See Ex parte Hartman, 186 U.S.P.Q. 336, 337 (P.T.O.B.O.A. 1974) (reversing rejection when modification would destroy basis for invention in one or two references).

For these reason, the rejection of claims 1, 2, 7, 8, 13, 14, 15, 20 and 21 should be withdrawn.

Claims 3, 9 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai in view of Henderson and further in view of Nishitani et al. These claims have been amended to recite that the communication link includes a radio frequency transceiver at each digitizer and a single radio frequency transceiver associated with the host computer. Nishitani teaches that there are individual communications links (Nishitani Fig 1 Items 4 & 5) connecting the devices to the central system. Claims 3, 9 and 16 depend from the independent claims 1, 8 and 14 above and are considered to be allowable for the reasons advanced above and for the additional reason that the added subject matter thereof is not taught or suggested by the prior art of record.

Claims 4, 10 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai in view of Henderson and further in view of Ieperen. Claims 4, 10 and 17 depend from the independent claims 1, 8 and 14 and above and are considered to be allowable for the reasons advanced above.

Claims 5, 11 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai in view of Henderson and further in view of Lin. Claims 5, 11 and 18 depend from the independent claims 1, 8 and 14 and above and are considered to be allowable for the reasons advanced above.

Claims 6, 12 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai in view of Henderson and further in view of Bi et al. Claims 6,

12 and 19 depend from the independent claims 1, 8 and 14 and above and are considered to be allowable for the reasons advanced above

Claim 22 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka in view of Henderson. Claim 22 has been amended to define the invention more clearly and thus obviate the rejection. In particular, claim 22 as amended recites that the digitizer is un-tethered and has no display features. In addition, the display space is mapped to coincide with the display space via computer readable medium, at the host computer, having stored thereon sequences of instructions for mapping the space to the display. Furthermore, the background image and annotation are saved at the host computer.

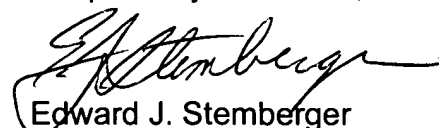
In the claim, the display containing the background image is only associated with the host computer. In Yoshioka, each terminal includes a transparent digitizer unit 21 placed over an LCD display 36. There is no teaching or suggestion in Yoshioka of using the digitizer unit 21 without the display 36. The Examiner contends that Yoshioka teaches "saving the background image and annotation". This is not what occurs in Yoshioka. In fact, the memory 35 of each display unit 22 does not store the background image and the annotation. In Yoshioka, images (annotations) written in a frame memory 35 are displayed on the liquid crystal display 36 of the unit 22. Nowhere does Yoshioka teach that the background image is stored in memory 35 at a host computer. For these reasons the rejection should be withdrawn.

Dependent claims 23-25 have been added and are considered to be allowable over the prior art of record.

All rejections having been addressed, it is respectfully submitted that this application is in condition for allowance and a Notice to that effect is earnestly solicited.

The three month extension fee accompanies this Amendment.

Respectfully submitted,

  
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